Amendments to the Claims:

1. (Currently amended) A computer implemented method for ~~visualization of~~ displaying real world data by displaying a plurality of points in a phase space, the method comprising the steps of, for each point:

(a) providing a sequence of data samples corresponding to the real world data measured in relation to a dimension;

(b) calculating and storing with an electronic processor a single volatility of the sequence, wherein the volatility is calculated in accordance to:

$$\overline{\sigma_{t_0,t_1}(p)} = \frac{1}{\sqrt{t_1 - t_0 - 1}} \sqrt{\sum_{t=t_0}^{t_1-1} (\overline{R_{t_0,t_1}(p)} - R_{t,t+1}(p))^2}$$,

wherein $R_{t,t+1}(p) = \ln(p_{t+1}) - \ln(p_t) \approx \frac{p_{t+1} - p_t}{p_t}$, and

wherein $\overline{R_{t_0,t_1}(p)} = \frac{1}{t_1 - t_0} \sum_{t=t_0}^{t_1-1} \ln(p_{t+1}) - \ln(p_t)$, where *t* is a dimension and *p* is a data value;

(c) scaling and storing with the electronic processor the volatility with a factor, the factor being dependent on the length of the sequence;

(d) calculating and storing with the electronic processor a net change in the data as a difference between data samples within the sequence, in accordance ~~with the formula~~ to:

$$R_{t,t+1}(p) = \ln(p_{t+1}) - \ln(p_t) \approx \frac{p_{t+1} - p_t}{p_t}$$ ~~, where *t* is a dimension and *p* is a data value~~;

(e) determining and storing with the electronic processor a first and a second coordinate value of a point in phase space based on the volatility and the net change; and

(f) providing as an output of the electronic processor a display of the point in phase space.

2. (Currently Amended) The computer implemented method of claim 1 wherein the factor is related to the square root of the length of the sequence.

3. (Currently Amended) The computer implemented method of claim 1 wherein the real world data is selected from data pertaining to members of the group consisting of: stocks, stock options, bonds, currency exchange rates, microeconomic values, macroeconomic values, stock exchanges, personal stock portfolios, turnover, return on net asset, inflation rate, unemployment, sports, science, opinion polls, sports team performance, technology, physical experiments, and sociology; and

wherein said dimension is selected from the group consisting of: time, length, energy, and speed.

4. (Currently Amended) The computer implemented method of claim 1 comprising the further steps of:

(g) providing and storing with the electronic processor a probability distribution of the net change in data for a plurality of points;

(h) providing and storing with the electronic processor a probability threshold value; and

(i) determining and storing with the electronic processor a sub-space of the phase space based on the probability distribution and the probability threshold value.

5. (Currently Amended) The computer implemented method of claim 4 wherein the probability distribution is a gaussian distribution.

6. (Currently Amended) The computer implemented method of claim 4 wherein the probability threshold value is equal to one of the volatility and the volatility times an integer value.

7. (Currently Amended) The computer implemented method of claim 4 wherein the sub-space has the form of one of a cone and the projection of a cone.

8. (Withdrawn) The method of claim 1 wherein each of the data samples are correlated to a price value and the difference is correlated to a return.

9. (Withdrawn) The method of claim 1 wherein each data sample is an intraday price fixing.

10. (Currently Amended) The computer implemented method of claim 1 further comprising providing as an output of the electronic processor a display of a symbol on a location of a display unit corresponding to the first and second coordinate value, wherein the first coordinate value corresponds to an x-axis value of a Cartesian coordinate system, the x-axis being representative of the volatility and wherein the second coordinate value corresponds to a y-axis value , the y-axis being representative of the net change, and wherein the point is displayed on the on the Cartesian coordinate system according to the first coordinate value and the second coordinate value.

11. (Currently Amended) The computer implemented method of claim 4 further comprising the step of providing as an output of the electronic processor a display of a boundary of the sub-space.

12. (Original) The method of claim 10 comprising the further step of displaying a number of K frames FRj, each of the frames FRj visualizing one of a corresponding set of points p0 to pi and a sub-set of the set of points.

13. (Currently Amended) The computer implemented method of claim 1, wherein providing as an output of the electronic processor a display includes decreasing the brightness and/or contrast of points previously displayed.

14. (Withdrawn) The method of claim 1 wherein the first sequence covers an intraday period.

15. (Withdrawn) The method of claim 1 further comprising

g) defining a hierarchical tree structure, the tree structure providing an index structure for accessing a database; and

h) providing a plurality of sequences each composed of data samples,

i) storing said plurality of sequences of data samples, the data samples being ordered in a time series, and each of the sequences being associated with a leaf of the hierarchical tree structure.

16. (Currently Amended) The computer implemented method of sequences associated with a specific entity, the sequences of said set of sequences covering different time intervals.

17. (Withdrawn) The method of claim 15 wherein the database contains a plurality of files, each file storing a predefined set of sequences with the set of sequences stored in each file being associated with a specific distinct entity and being accessible by an identifier of the specific distinct entity.

18. (Withdrawn) The method of claim 17 wherein the specific distinct entity is a predetermined group of stock values, a stock portfolio or a stock or other financial index.

19. (Currently Amended) The computer implemented method of claim 15 wherein the data samples are input into the database in real time with a predetermined delay.

20. (Withdrawn-Previously presented) The method of claim 15 further comprising

j) storing a number of user defined portfolios which are retrievable by a key;

k) retrieving sequences of data samples corresponding to a user defined portfolio upon a user request by querying the database;

l) providing the user with the sequences of data samples;

m) updating the sequences of data samples at regular time intervals; and

n) discontinuing the updating process when a user has failed to perform an action during a predefined time interval.

21-22. (Canceled)

23. (Currently amended) A client computer system for computing and storing with an electronic processor a point in a phase space, the client computer system comprising:

a) a sequencer for deriving a sequence of data samples of real world data;

b) a calculator for determining a single volatility of the sequence of data samples and a net change in the data as a difference between data samples within the sequence, wherein the volatility is calculated in accordance to:

$$\overline{\sigma_{t_0,t_1}(p)} = \frac{1}{\sqrt{t_1 - t_0 - 1}} \sqrt{\sum_{t=t_0}^{t_1-1} (\overline{R_{t_0,t_1}(p)} - R_{t,t+1}(p))^2},$$

wherein $R_{t,t+1}(p) = \ln(p_{t+1}) - \ln(p_t) \approx \frac{p_{t+1} - p_t}{p_t}$, and

wherein $\overline{R_{t_0,t_1}(p)} = \frac{1}{t_1 - t_0} \sum_{t=t_0}^{t_1-1} \ln(p_{t+1}) - \ln(p_t)$;

and wherein the difference between data samples within the sequence is calculated in accordance ~~with the formula~~ to:

$$R_{t,t+1}(p) = \ln(p_{t+1}) - \ln(p_t) \approx \frac{p_{t+1} - p_t}{p_t},$$ where t is a dimension and p is a data value;

c) a scaler for scaling the calculated volatility with a factor dependent on the length of the ~~first~~ sequence;

d) a plotter for determining a first and a second coordinate value of a point in a phase space based on the volatility and the difference; and

e) a display for displaying the point as an output of the electronic processor in a phase space.

24. (Previously Presented) The client computer system of ~~claims~~ claim 23 further comprising a second plotter for determining a sub-space of the phase space in which the point is situated with a probability being equal to a predetermined probability value, the determination of

the sub-space being made responsive to the predetermined probability value and a probability distribution.

25. (Currently amended) A computer program product for ~~visualization~~ displaying ~~of~~ real world data comprising a computer readable medium encoded with computer executable instructions storable with an electronic processor, for performing the steps of:

i) reading a sequence of data samples from a server computer;

ii) calculating a single volatility of the sequence of data samples, wherein the volatility is calculated in accordance to:

$$\overline{\sigma_{t_0,t_1}(p)} = \frac{1}{\sqrt{t_1 - t_0 - 1}} \sqrt{\sum_{t=t_0}^{t_1-1} (\overline{R_{t_0,t_1}(p)} - R_{t,t+1}(p))^2}$$,

wherein $R_{t,t+1}(p) = \ln(p_{t+1}) - \ln(p_t) \approx \frac{p_{t+1} - p_t}{p_t}$, and

wherein $\overline{R_{t_0,t_1}(p)} = \frac{1}{t_1 - t_0} \sum_{t=t_0}^{t_1-1} \ln(p_{t+1}) - \ln(p_t)$, where *t* is a dimension and *p* is a data value;

iii) scaling the volatility with a factor dependent on the length of the ~~first~~ sequence;

iv) calculating a net change in the data as a difference between data samples within the sequence, in accordance ~~with the formula~~ to:

$$R_{t,t+1}(p) = \ln(p_{t+1}) - \ln(p_t) \approx \frac{p_{t+1} - p_t}{p_t}$$ ~~, where *t* is a dimension and *p* is a data value~~; and

v) determining a first and a second coordinate value of a point in phase space based on the volatility and the difference;

wherein steps (i)-(v) are repeated to enable an output of the electronic processor of a display of the points in phase space.

26. (Original) A computer readable medium having computer executable instructions for performing the steps recited in claim 1.

27. (Original) A server computer system comprising a computer program product according to claim 26 for downloading and execution by a client computer system.

28. (Currently Amended) A computer implemented method for ~~visualization~~ displaying of financial data in a phase space, the method comprising the steps of:

(a) providing a plurality of sequences of data samples, each corresponding to the financial data over time, and

(b) for each of said at least one sequences:

(i) calculating a single volatility of the sequence;

(ii) scaling the volatility with a factor, the factor being dependent on the length of the sequence, wherein the volatility is calculated in accordance to:

$$\overline{\sigma_{t_0,t_1}(p)} = \frac{1}{\sqrt{t_1 - t_0 - 1}} \sqrt{\sum_{t=t_0}^{t_1-1} (\overline{R_{t_0,t_1}(p)} - R_{t,t+1}(p))^2}$$,

wherein $R_{t,t+1}(p) = \ln(p_{t+1}) - \ln(p_t) \approx \frac{p_{t+1} - p_t}{p_t}$, and

wherein $\overline{R_{t_0,t_1}(p)} = \frac{1}{t_1 - t_0} \sum_{t=t_0}^{t_1-1} \ln(p_{t+1}) - \ln(p_t)$, where t is a time value and p is a data value;

(iii) calculating return as a difference between data samples within the sequence, in accordance ~~with the formula~~ to:

$$R_{t,t+1}(p) = \ln(p_{t+1}) - \ln(p_t) \approx \frac{p_{t+1} - p_t}{p_t}$$ ~~, where t is a time value and p is a data value~~;

(iv) determining a first and a second coordinate value of a point in phase space based on the volatility and the return, wherein the first coordinate value corresponds to an x-axis value of a Cartesian coordinate system, the x-axis being representative of the

volatility that has been scaled, and wherein the second coordinate value corresponds to a y-axis value , the y-axis being representative of the return $R_{t_0,t_1}(p)$; and

(v) displaying the point in phase space using a medium selected from the group consisting of: computer display, printed media, wherein the point is displayed on the on the Cartesian coordinate system according to the first coordinate value and the second coordinate value ; and

(c) for a plurality of said plurality of sequences of step (b):

(i) calculating a probability distribution of the calculated return values;

(ii) providing a probability threshold value; and

(iii) defining a sub-space of the phase space based on the probability distribution and the probability threshold value; and

(iv) enabling the ~~visualization~~ displaying of the sub-space on the medium selected.

29. (Canceled)